

## PATENT COOPERATION TREATY

PCT

期限：12月7日

## INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference P04843800	<b>FOR FURTHER ACTION</b> see Form PCT/ISA/220 as well as, where applicable, item 5 below.	
International application No. PCT/JP2004/005142	International filing date (day/month/year) 09/04/2004	(Earliest) Priority Date (day/month/year) 11/04/2003
Applicant  MATSUSHITA ELECTRIC INDUSTRIAL CO., LTD.		

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 7 sheets.

It is also accompanied by a copy of each prior art document cited in this report.

## 1. Basis of the report

- a. With regard to the language, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

The international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

- b.  With regard to any nucleotide and/or amino acid sequence disclosed in the international application, see Box No. I.

2.  Certain claims were found unsearchable (See Box II).

3.  Unity of invention is lacking (see Box III).

## 4. With regard to the title,

the text is approved as submitted by the applicant.

the text has been established by this Authority to read as follows:

## 5. With regard to the abstract,

the text is approved as submitted by the applicant.

the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box No. IV. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

## 6. With regards to the drawings,

- a. the figure of the drawings to be published with the abstract is Figure No. 15

as suggested by the applicant.

as selected by this Authority, because the applicant failed to suggest a figure.

as selected by this Authority, because this figure better characterizes the invention.

- b.  none of the figures is to be published with the abstract.

# INTERNATIONAL SEARCH REPORT

International application No.  
PCT/JP2004/005142

## Box II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1.  Claims Nos.: because they relate to subject matter not required to be searched by this Authority, namely:
  
2.  Claims Nos.: because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
  
3.  Claims Nos.: because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

## Box III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1.  As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
  
2.  As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
  
3.  As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
  
4.  No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

### Remark on Protest

The additional search fees were accompanied by the applicant's protest.

No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-2,5,16

In a high frequency heating apparatus, use of a shunt resistor in order to measure the output current of the unidirectional power source.

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2. claims: 3-4,12-15

In a high frequency heating apparatus, arrangement of the rectifying element, switching element and shunt resistor in view of space saving and easy connection in the connection board.

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3. claims: 6-11

In a high frequency heating apparatus, arrangement of the parts in order to achieve a better cooling effect.

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4. claims: 17-19

In a high frequency heating apparatus, provision of means for eliminating the problems of controlling the input current due to the temperature effect over the properties of the shunt resistor.

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A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 H05B6/68 H05B6/66 H05K1/02 H01L23/34

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 H05B H05K H01L

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 4 843 202 A (SMITH DECEASED PETER H ET AL) 27 June 1989 (1989-06-27) the whole document	1,2,5,16
Y		3,4,6-15
A	-----	17-19
X	US 4 319 317 A (FUKUI HIROSHI ET AL) 9 March 1982 (1982-03-09) abstract; figures 1-6	1
X	EP 0 289 032 A (MATSUSHITA ELECTRIC IND CO LTD) 2 November 1988 (1988-11-02) abstract; figures 2,7,12-26	1
Y	EP 0 507 532 A (MATSUSHITA ELECTRIC IND CO LTD) 7 October 1992 (1992-10-07) the whole document	3,4,6-15
A	-----	17-19
	-/-	

Further documents are listed in the continuation of box C.

Patent family members are listed in annex.

\* Special categories of cited documents :

- \*A\* document defining the general state of the art which is not considered to be of particular relevance
- \*E\* earlier document but published on or after the international filing date
- \*L\* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- \*O\* document referring to an oral disclosure, use, exhibition or other means
- \*P\* document published prior to the international filing date but later than the priority date claimed

- "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- \*&\* document member of the same patent family

Date of the actual completion of the international search

13 September 2004

Date of mailing of the international search report

07/10/2004

Name and mailing address of the ISA

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Garcia, J

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 4 336 569 A (TSUDA TATSUYA ET AL) 22 June 1982 (1982-06-22) the whole document -----	6-11
Y	US 4 812 617 A (TAKEUJI KOICHI ET AL) 14 March 1989 (1989-03-14) the whole document -----	6-12
A	US 4 868 362 A (TAKEUJI KOICHI) 19 September 1989 (1989-09-19) abstract; figures 1-4 -----	6-11

Patent document cited in search report		Publication date		Patent family member(s)		Publication date
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			DE	2925338 A1		10-01-1980
			GB	2030372 A , B		02-04-1980

## Information on patent family members

International Application No  
PCT/JP2004/005142

Patent document cited in search report	Publication date		Patent family member(s)	Publication date
US 4812617	A	14-03-1989	JP 55128393 U	10-09-1980
US 4868362	A	19-09-1989	JP 1179813 C	30-11-1983
			JP 55121968 A	19-09-1980
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